REMARKS

Claims 1 to 7, 9 to 23, and 25 are pending in the application; claims 8 and 24 have been canceled.

Election/Restriction

Applicant herewith affirms election of claims 1, 8, 9, 20 to 25 for further prosecution.

Rejection under 35 U.S.C. 102

Claims 1, 8, 22, 25 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Dahlhaus (US 5,271,629)*.

Claim 8 is canceled.

Claim 1 has been amended by incorporating features from claim 8, claim 20 (see also paragraph 0014 of the specification), and claim 24. The feature that the sealing edge is a closed ring is disclosed in the specification in paragraph 0024 as well as Fig. 3 in combination with Fig. 1.

Claim 1 as amended defines a sealing lip having a passage for the machine part, wherein the sealing lip points to an air side of the machine part to be sealed and has a contact side provided with a return conveying device for a medium to be sealed at a medium side of the machine part. The return conveying device is configured as an alternating twist structure. The alternating twist structure is a sine structure extending at a spacing about a sealing edge of the sealing lip and formed by recesses in the contact side. The sealing edge is a closed ring. The sealing lip is comprised of polyfluorocarbon.

Dahlhaus et al. disclose a sealing ring that has a hydrodynamically acting return-transport element 7 facing the air side and surrounding the shaft 4. The return element 7 has a sinus-shaped contour (see Fig. 2; col. 3, lines 52-54); as can be seen in Fig. 1, the return element 7 is a projection protruding from the flat surface of the main seal extending parallel to the shaft 4. The main seal 2 has moreover a sealing edge 6 that seals the interstice 9 relative to the medium side A. The sealing edge 6 is also sinus-shaped (see Fig. 2; col. 3, lines 24-26).

The present invention differs from this prior art configuration in that the sinus-structure is comprised of recesses; the prior art shows a projection 7 contacting the shaft. Moreover, the present invention has a sealing edge that is a closed ring (i.e., is circular);

the prior art shows a sinus contour of the sealing edges 6 and 7, not a circular closed ring configuration (Fig. 3 at 23). Moreover, *Dahlhaus et al.* do not disclose a sealing lip that is comprised of polyfluorocarbon. Claim 1 and its dependent claims are therefore not anticipated or obvious in view of *Dahlhaus et al.*

Reconsideration and withdrawal of the rejection of the claims pursuant to 35 USC 102 are therefore respectfully requested.

Rejection under 35 U.S.C. 103

Claims 1, 8, 9, 20-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Hacker et al. (US 6,860,486)* and *Johnston (US 6,428,013)*.

Claim 8 and claim 24 are canceled.

Hacker et al. disclose return channels 55, 56, 57 cut into the sealing lip 1 in the form of sinusoidally undulated grooves. The sealing lip 1 is facing the space M containing the medium. Fig. 3 shows the sinusoidal contour of the sealing edge 6.

Johnston et al. shows a sealing ring having a sealing lip extending toward the air side. The sealing lip is however of an entirely different configuration than the sealing lips of *Hacker et al.*. The sealing lip of *Johnston et al.* neither has an alternating twist structure nor a sine structure. Instead, a return device in the form of a spiral ridge 32 is formed in the sealing surface 34 that pumps oil that migrates along the periphery of the shaft back toward the oil side 6. The return device thus has a continuous pitch in one direction. Such a sealing ring can be used only in a single rotational direction (see paragraph 0004 of the instant specification). This is also the type of shaft seal discussed in *Hacker et al.* (col. 1, lines 7-25: " to provide a thread in a sealing portion ... so as to return the medium ... back into the space to be sealed"; "... they seal only "dynamically", in other words, when the shaft is rotating, and, what is more, just in one direction of rotation... ").

Such sealing rings cannot be used on shafts that rotate in two directions. The spiral return structure extending toward the air side is only functional in the case of mono-directional shafts. A person skilled in the art, in particular, in view of *Hacker et al.* pointing out the disadvantages of such seals, would therefore not consider a seal configuration suitable only for a mono-directional rotation of a shaft when looking for solutions in regard to seals for bi-directional shafts.

There is no reason to reverse the arrangement of *Hacker et al.* - *Hacker et al.* at the time of making his invention knew of the arrangement of *Johnston et al.* and did not consider the reverse arrangement as a fitting solution for the return channels.

Examiner states that a motivation to use the configuration of *Johnston et al.* is to eliminate the mounting problems associated with mounting seals so as to face the oil side as discussed in col. 1, lines 16-29, of *Johnston et al.*. However, *Hacker et al.* has addressed the problem in regard to mounting the seals (see col. 1, lines 26-47) and has solved the mounting problem by eliminating the problem-causing springs (see col. 2, lines 13-22).

Moreover, the sealing edge of *Hacker et al.* has a sinusoidal contour (Fig. 3) and is not a closed (circular) ring.

Reconsideration and withdrawal of the rejection of the claims pursuant to 35 USC 103 are therefore respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or **e-mail** from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on March 1, 2006,

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